



Glossary of Glass Terms

A

Abrasion The technique of creating shallow decoration by grinding with a wheel or other device. The decorated areas remain unpolished.

Acanthus In art, an ornament that resembles the leaves of the species *Acanthus spinosus* plant.

Acid Etching The process of creating decoration on the surface of glass by applying hydrofluoric acid. A similar effect is weathering, obtained by exposing glass to fumes of hydrofluoric acid to create an all-over matte surface.

Acid Polishing The technique of creating a glossy, polished surface by dipping (usually) cut glass into a mixture of hydrofluoric and sulfuric acids. Developed in the late 19th century.

Acid Stamping The process of acid etching a trademark or signature onto annealed glass using a rubber stamp-like tool.

Aeolipile (From Greek): Globular or pear-shaped object with a narrow neck and mouth. Its function is believed to be as containers. *See Grenade*

Agate Glass *See Calcedonio*

Air Trap, Air Lock An air-filled void of almost any shape. Air traps in glass stems are frequently tear-shaped or elongated and spirally twisted. *See Diamond Air Trap, Pegging, Twist*

Air Twist *See Twist*

Alabaster Glass A type of translucent white glass first produced in Bohemia in the 19th century. Similar to opal glass.

Alabastron (From Greek): A small bottle or flask for perfume or oil, usually with a flattened rim, narrow neck, cylindrical body, and two handles.

Ale Glass An English drinking glass for ale or beer first made in the 17th century, with a tall and conical cup, a stem, and a foot.

Alkali A soluble salt consisting mainly of potassium carbonate or sodium carbonate. It is one of the essential ingredients of glass, generally accounting for 15 to 20 percent of the batch.

Amberina A type of art glass that varies in color from amber to ruby or purple in the same object, due to the mineral gold in the batch.

Amen Glass A rare type of English wineglass with a drawn stem. The bowl is decorated with engraving from a Jacobite hymn.

Amphora (From Latin): A jar with two handles.

Amphoriskos (From Greek for "small amphora"): A small jar with two handles used for perfume or oil.

Ancient Glass A term used for pre-Roman and ancient Roman glass.

Annagelb, Annagrün (German): Two types of colored glass developed in 1834 by adding uranium oxide to the batch. Annagelb is yellow, and Annagrün is green. *See also Uranium Glass*

Annealing The process of slowly cooling a blown or cast glass object to prevent the stresses of rapid cooling. An integral part of glassmaking, a hot glass object must not be allowed to cool too quickly or it may crack or break as it cools or at some later date. *See Lehr*

Annealing Oven A unit that allows for gradual cooling of the outside and inside of a molten glass object to assure that it will not cool too fast, resulting in cracks or breaks.

Applied Decoration Heated glass elements such as canes and trails that are applied to a glass object during manufacture. *See also Marquetry, Pick-up Decoration*

Appliqué A bit of hot glass attached to the surface of an object for decorative purposes.

Art Glass

1. Types of glass with newly developed surface textures, shaded colors, or casing. Made in the United States circa 1870 and in Europe circa 1880 to 1900.
2. Any ornamental glassware made since the mid-19th century.

Aryballos (From Greek): A small globular flask with two handles used by the ancient Greeks and Romans to contain oil.

Assistant A glassworker who works directly for the gaffer.

Atmosphere The relative content of oxygen and fuel in a flame or kiln. Atmosphere rich in fuel particles affects glass one way (reduction). Atmosphere with a high proportion of oxygen affects glass differently (oxidation).

At-the-Fire The reheating of a blown glass object at the glory hole during manufacture, permitting additional inflation, manipulation with tools, or fire polishing.

At-the-Flame, At-the-Lamp *See Flame-Working, Lampworking*

Aurene A type of ornamental glass with an iridescent surface. Made by spraying the glass with stannous chloride or lead chloride and reheating it under controlled conditions.

B

Bar A single piece of glass formed by fusing several canes or rods. It can be cut into several slices with the same design, to be used as inlays, appliques, or mosaic glass elements.

Barilla (From Spanish): During the manufacture of glass, an impure alkali made by burning *Salsola soda* plants and related species.

Base-Ring *See Foot-Ring*

Batch Raw materials (often silica, soda, potash, and lime) that are melted in a tank to make glass. Cullet and/or minor ingredients like colorants can be added to help the melting process.

Battledore A square wooden paddle with a handle used by glassworkers to smooth the bottoms of vessels and other objects.

Battuto (From Italian for “beaten”): A multifaceted wheel-engraved surface that resembles beaten metal. *See Martelé*

Bear Jar A 19th century American pressed-glass jar in the form of a bear.

Bench The work area of a glassblower or lampworker. *See Chair*

Berkemeyer (From German): A type of drinking glass with a funnel-shaped mouth, made in the 16th and 17th centuries. Similar to a Römer.

Bird Fountain A frameworked centerpiece or mantel ornament made in England in the mid-19th century. Consists of a tall fountain with two birds perched on the rim, and two or more shorter pedestals birds on the top. The birds tails are made of glass fibers.

Bit A mass of small and freshly gathered molten glass from the furnace. Also known as gobs.

Bit Gatherer The person in a team of glassworkers who removes bits from the furnace using a bit iron.

Black Bottle Bottles of dark green or dark brown glass, first made in England in the mid-17th century. The color protected the contents of the bottles.

Blank Any cooled glass object that requires further forming or decorating.

Blankschnitt (From German for “smooth cut”): A style of engraved decoration where the relief effect is enhanced by polishing the ground part of the intaglio. Usually found on glasses engraved in Nuremberg in the 17th and 18th centuries.

Bleeding Glass *See Cupping Glass*

Blobbing The technique of decorating hot glass by dropping blobs of molten glass on to the surface.

Block A tool made of hollowed-out wood that forms a hemispherical recess. After being dipped in water to reduce charring and create a cushion of steam, the block is used to form the gather into a sphere before it is inflated.

Blocker A glassworker that blows the first bubble through a blowpipe, then transfers the blowpipe to the gaffer.

Blow Hose A neoprene tube attached to a swivel with a mouthpiece at one end. It enables the frameworker to blow into the bubble while working it in the flame.

Blower The glassworker that blows the air through the blowpipe.

Blowing The technique of forming an object by inflating a gather or gob of molten glass on the end of a blowpipe. A gaffer blows through the tube to slightly inflate the gob, which is then manipulated by swinging it, rolling it on a marver, or shaping it with tools or in a mold. The form is then inflated to the desired size.

Blown Three-Mold Glass Glassware made in America circa 1815 to 1835 that was blown into a full-size mold consisting of two to five pieces.

Blowpipe An iron or steel tube, generally four to five feet long, blown through to expand a bubble of hot glass.

Borosilicate Glass Glass with a flux of boric oxide instead of alkali, created 1882. Having a low coefficient of expansion, it withstands sudden changes of temperature. Used for cooking and laboratory vessels.

Borsella (From Italian) *See Jacks*

Bottle Glass Inexpensive, naturally-colored green or brown glass. Color results from traces of iron found in the silica used as its major ingredient.

Brilliant-cut Glass Highly polished glass object with elaborate, deeply-cut patterns that generally cover its entire surface.

Broken-swirl Ribbing Decoration made by blowing a gather into a vertically-ribbed dip mold, extracting and twisting it to produce a swirled effect, then re-dipping it in the same or another dip mold to create a second set of ribs.

Bubble A pocket of gas that enters glass during manufacture. Term is used for unwanted bubbles and those introduced intentionally (known as air traps or beads). Very small bubbles are known as seeds. *See Pulegoso*

Bull's-eye Pane A glass pane with a pontil mark surrounded by concentric ridges.

Burmese A translucent yellow shading-to-pink art glass made in New Bedford, Massachusetts, circa 1885 to 1895.

Burner The heat source for flamework, usually running on gas and oxygen. It consists of a head with multiple orifices that distribute and direct the flame, a body through which the gas is passed, and a valve assembly where the proportions of gas and oxygen are controlled.

Burn-mark Ash residue from the use of newspaper that assists in the shaping of molten glass.

Button A small, generally clear amount of molten glass placed on the working end of a glass piece to assure proper connection to the pipe. Also may be used on a glass project for decoration.

C

Cage Cup Ancient Roman style where a vessel is decorated by under-cutting so surface decoration stands free of the body of the glass. Result is vessel that appears to be enclosed in an openwork cage. Also known as *diatreta* or *vasa diatreta*.

Calcedonio (From Italian for “chalcedony”): Glass marbled by brown, blue, green, and yellow swirls in imitation of chalcedony and other banded semiprecious stones.

Came A grooved strip of (usually) lead with an H-shaped cross section, used to join separate parts of decorative glass windows.

Cameo Glass One-color glass covered with other layers of contrasting color(s). The outer layers are acid-etched, carved, cut, or engraved to produce a design that stands out from the background.

Cane A thin monochrome rod, or a composite group of different colored rods, which are bundled together and fused. Result is a polychrome design that is visible only when seen in cross section. *See Bar, Millefiori, Rod, Zanfirico, Twisted Cane*

Carnival Glass Inexpensive pressed-glass with vivid gold, orange, and purple iridescence. Frequently offered as fairground prizes, it was made in the United States circa 1895 to 1924.

Carving Removing glass from the surface of an object via hand-held tools or sandblasting.

Casing The application of one layer of glass over another, usually to achieve the material for graal or cameo glass.

Casting Any of the multiple methods of forming glass in a mold, including pouring molten glass into a sand mold (sand casting) and melting glass cullet into a mold placed in a kiln (kiln casting).

Chair

1. The bench used by a gaffer while forming an object. Traditionally wide, with arms on which the blowpipe with its parison of molten glass can roll backward and forward to retain the object's symmetrical shape.
2. The team of glassworkers who assist a gaffer.

Chalk Glass A colorless glass containing chalk, often elaborately engraved. Developed in Bohemia in the late 17th century.

Chill-mark A blemish that refracts light differently, caused by the use of a cooler instrument on hot glass.

Chord Lines in clear glass of a slightly different expansion coefficient that refract light at different rates.

Chunked A glass piece that has been badly damaged.

Cintra A decorative glass made by picking up chips of colored glass on the parison and then casing them with a thin layer of (usually) clear glass.

Cire Perdue (From French for "lost wax") *See Lost Wax Casting*

Clamp A tool used instead of a pontil to hold the closed end of a partly formed glass vessel while the open end is shaped. *See Gadget*

Clapper A glassworking tool made of two rectangular pieces of wood joined by a leather hinge. An aperture in one of the pieces holds the stem of a goblet or wineglass and squeezes a blob of glass to form the foot.

Claw Beaker A beaker with claw- or trunk-like protrusions. Made by applying blobs of hot glass that melt parts of the wall to which they are attached, that are then blown outward and manipulated to resemble hollow claws.

Clichy Rose A slice of cane depicting an open rose, frequently used in French paperweights of the 19th century.

Clutha A type of glass patented in the 1890s containing air traps and specks of aventurine.

Cluthra A type of art glass developed in the 1920s.

COE, Coefficient of Expansion The relative amount that a material expands when heated.

Coil Base A trail of glass drawn-out to form a ring or conical foot on which a vessel stands.

Cold Colors Painted-on pigments applied as decoration to glass.

Cold Painting The technique of decorating an object by applying paint. In contrast to enameling, in which colored powdered glass is fused to the object by heating. *See Enamel*

Cold Working Defines various techniques (such as copper-wheel engraving and cutting) used to alter or decorate glass when cold.

Collar A band of glass applied to the rim of a vessel. In a bottle, the collar secures the cork.

Colored Glass Glass that has color due to the addition of ingredients such as pigments or oxides to the batch. *See Heat-shaded Glass*

Combed Decoration A wavy, feathery, or zig-zag pattern of two or more colors. Created by applying threads of opaque glass of one color to a molten glass body of another color. *See Feathering, Trailing*

Compatibility Attribute of different glass with the same COE allowing them to be joined together while hot, yet not breaking apart when cool.

Concentric Paperweight Design of paperweight where the slices of canes are arranged in concentric circles.

Contemporary Glass Glass designed by artists exclusively for their own creative use.

Copper-wheel Engraving A technique of decorating the surface of an object using copper disks and rim profiles, rotated on a spindle. Carborundum mixed with oil forms the abrasive which is applied to the edge of the wheel, then pressed against the glass so that surface is removed by grinding.

Cord An area of glass of different composition than its surrounding matrix, resulting in a change in the refractive index. Seen as a streak, marring the appearance of the glass.

Core A form to which molten glass is applied, creating a core-formed vessel. Pre-Romans are thought to have used animal dung mixed with clay as cores.

Core Forming The technique of forming a vessel by winding or gathering molten glass around a core supported by a rod. After forming, the object is removed from the rod and annealed, with the core later removed by scraping.

Cord Visible defects from streaking to slight color haziness in glass.

Cowhorn The large end of a mosaic glass cane, shaped like the tapered horn of a cow.

Cracking Off The technique of breaking off a punti or rod that has been used as a handle during the vessel forming process.

Crackle Glass *See Ice Glass*

Cristallo (From Italian for “crystal”): A Venetian term from the 14th century describing glass that resembles colorless rock crystal. Yet, most Venetian Cristallo has a gray or brown tint.

Crizzling, Crisseling A network of cracks in the surface of glass that can feel damp or oily. The result of a chemical imbalance in the ingredients of the batch (often an excess of alkali or deficiency of stabilizing lime), the instability of the glass results in an attack by atmospheric moisture. Crizzled glass is sometimes described as “sick” or “weeping.”

Crown Glass Sheet glass made by blowing a parison, cutting it open, rotating it rapidly with repeated reheating until the centrifugal force has produced a flat disk. After annealing, the disk is cut into panes. Bull’s-eye panes come from the centers of the disks and display the thickened area where the parison was attached to the pontil.

Crown Weight A style of hollow paperweight that incorporates thin white or color filigree canes arranged vertically on the sides and converging at the top.

Crystal A term for brilliant, colorless lead glass with a high refractive index. Often used to describe fine glass tableware. In the United Kingdom, glass described as “crystal” must contain a defined percentage of lead oxide.

Cullet Pieces of raw glass or broken glass from a cooled melt intended for use as an ingredient of batch; Scrap glass intended for recycling.

Cutting Grinding a pattern into glass by using a consistent-speed rotating wheel coated with an abrasive. *See Carving, Copper-wheel Engraving, Wheel Engraving*

Cut-to-Clear Technique to create an effect in glass by cutting away surface layers to reveal the under-layers of the piece.

Cylinder Glass A process for creating window glass. Made by inflating a large gather, swinging it until it forms a cylinder, detaching it from the blowpipe, cutting it lengthwise, reheating it, and allowing it to slump to the form of a flat sheet. After annealing, the sheet is cut into panes.

D

Daumenglas (From German for “thumb glass”): A large cylindrical or barrel-shaped forest glass beaker with indentations for users’ fingers.

Decolorizer A compound of manganese dioxide or cerium oxide used to remove or offset the greenish or brownish color in glass resulting from iron or other impurities in the production process.

Depression Glass Inexpensive, American machine-pressed glassware made circa 1920 to 1950.

Devitrification Literally “un-glass.” A condition caused when elements on the surface of glass breakdown and leave a white deposit. Sometimes eliminated by reheating, it is usually removed by acid-polishing.

Diamond Air Trap Glass decoration in a diamond-shaped pattern. Achieved by blowing a gather of glass into a mold with projections in the desired design, removing it, and covering it with a second gather which traps pockets of air in the indentations.

Diamond-point Engraving The technique of decorating glass by scratching its surface with a diamond. *See Stippling*

Diatreta Openwork objects made by lost wax casting.

Diatretum, Vas Diatretum (From Latin for “openwork vessel”): Used to refer to a cage cup. Plural is Vasa Diatreta.

Dichroic Glass Glass that is one color when seen by reflected light and another color when light shines through it. Can be due to the presence of colloidal gold or a thin coating of metallic oxide.

Didymium A violet-colored glass that can filter out the frequency of bright light (sodium flare) given off as the glass is heated in an oxidizing atmosphere. Harmful to the glassblower’s or flameworke’s eyes, didymium glass is used to make protective eyewear for hot glass artists.

Dip Mold A cylindrical or truncated conical one-piece mold with a patterned interior, open at the top so a parison can be dipped into it and then inflated. Also known as an optic mold.

Double Cruet *See Gemel*

Double Overlay Two coatings of a glass work.

Double-walled *See Zwischengoldglas*

Dragon-stem Goblet Type of goblet created in Venice in the 17th century. Has a stem in the form of a dragon with a convoluted body, out-spread wings, open jaw, and a crest. Known in Italian as *Vetri a Serpenti* (Serpent Glasses).

Drawing The technique of pulling a piece of hot glass to make it narrower. Used in the production of canes.

Drawn Stem The stem of a vessel that is drawn out from the main gather rather than formed and applied from a separate gather.

Dromedary Flask A blown-glass flask adorned with trails that form an openwork cage and fused to the back of a camel-like animal. Made in Syria circa the sixth to eighth centuries.

E

Eglomisé *See Verre Eglomisé*

Egyptian Blue The synthetic material copper calcium tetrasilicate that has a distinctive blue color. In antiquity, it was made by heating silica, lime, and a copper-containing ingredient. Often confused with faience and misleadingly called frit.

Enamel A vitreous material used to add decoration to the surface of an object. Made of finely powdered glass and metallic oxide, and suspended in an oily medium for application with a brush. The medium burns away during low temperature firing leaving the design.

Encased Glass An object covered with a layer of colorless glass.

Encrustation *See Sulphide*

End-of-day *See Frigger*

Engraving The technique of cutting in to the surface of an annealed glass object by holding it against a rotating abrasive wheel or scratching it with a diamond. *See Carving, Cutting, Stippling*

Etching Decoration The use of acid for a controlled chemical reaction on a glass surface.

Eye Bead A bead decorated with applied or embedded circular elements to resemble an eye.

F

Faceting Grinding and polishing an object to give the surface a pattern of planes.

Façon de Venise (From French for “manner of Venice” or “style of Venice”): Glass produced in imitation of Venetian products, popular in parts of Europe in the 16th and 17th centuries.

Faience A fired silica object containing small amounts of alkali and varying in hardness depending on the degree of sintering.

Fancy Glass A wide variety of 19th century European and American decorative glass.

Favrile Type of iridescent glass patented by Louis Comfort Tiffany in 1894.

Feathering The technique of dragging a tool across a series of trails while semi-molten to impart a pattern resembling feathers. *See Combed Decoration*

Figural Bottle A molded bottle in the form of a head or a variety of objects. Usually American glass of the late 19th and early 20th centuries.

Filigrana, Vetro a filigrana (From Italian for “filigree glass”): Generic name for blown glass made with colorless, white, and sometimes colored canes. The style originated in Murano in the 16th century. See *Vetro a Fili*, *Vetro a Reticello*, *Vetro a Retorti*

Fining The physical and chemical process of eliminating bubbles from a melt by making the glass more fluid. Done by raising the melt’s temperature and adding agents such as arsenic and antimony.

Finisher A glassworker (generally the gaffer) who puts the finishing touches on a glass object before it goes into the annealing oven.

Finishing Act of completing the forming or decoration of an object. Can be manipulating the object into its final shape while hot, cracking off before annealing, or cutting, enameling, grinding, or polishing.

Fire Clay Clay that can be subjected to high temperature without fusing, thereby usable for making crucibles in which glass batches are melted.

Fire Polishing In the hotshop, the reintroduction of a vessel into the glory hole to melt the surface to eliminate superficial irregularities. In kiln working, exposing an object to significant heat to create a smooth surface.

Firing

1. Heating the batch in a crucible or pot at the required temperature to fuse it into glass.
2. Reheating a glass object while it is being worked.
3. Reheating glassware in a muffle to fuse enamel or gilding.

Firing Glass A drinking glass made up of a bowl, a short stem, and a thick foot. Rapped loudly on a table for ceremonial occasions, it makes a noise that resembles a volley of gunfire.

Flame-annealing Technique in flameworking where the finished piece is reheated in a relatively cool flame to relax the stresses created during construction. Usually used on small pieces and generally regarded as temporary for work that is to be properly annealed later.

Flame-cutting Any technique where the flame is used to burn apart pieces of rod or tubing.

Flameworking The technique of forming objects from rods and tubes of glass that can be manipulated when softened in a flame. See *Lampworking*, *Lamp-blowing*

Flaring Creating a wider opening by spreading out the open end of a bubble or tube.

Flashing

1. Applying a thin layer of glass of one color over a layer of contrasting color, achieved by dipping a gather of hot glass into a crucible containing hot glass of the second color.
2. Quickly placing working glass into the glory hole to reheat the entire piece, intending that the glass will stay pliable and safe from cracking.

Flat Bouquet An arrangement of canes in a paperweight that imitate a bouquet of flowers and leaves.

Flint Glass A misnomer for English and American lead glass that came into use in 1674. In the 18th and 19th centuries, the term was applied to de-colored glass, even when it contained no flint.

Flügelglas (From German for “wing glass”) See *Winged Goblet*

Flute Very tall and slender wineglass with a short stem.

Fluted Vertical lines, grooves, or designs in glass.

Fluting A decoration that consists of narrow vertical grooves.

Flux A substance such as potash or soda that lowers the melting temperature of another substance. Flux is added to a glass batch in order to facilitate the fusing of the silica; Flux is added to enamels to lower their fusion point to below that of the glass onto which they are applied.

Folded Rim A glass rim that has been doubled in thickness to increase its strength.

Foot-ring A ring of glass added to the base of a vessel after its body has been formed.

Forest Glass Glass from rural central and northern Europe, made in the late Middle Ages and early modern period. Green because of iron impurities in the sand from which it was made, most was fluxed with potash from the wood which fueled the glasshouses.

Former Mold A mold with the same shape as a desired object.

Founding The initial phase of melting batch. Much modern glass must be heated to about 2,450 degrees Fahrenheit, followed by a maturing period when the molten glass cools to a working temperature of about 2,000 degrees Fahrenheit.

Free-blown, Off-hand Blown Glass Glass object shaped solely by inflation with a blowpipe and manipulation with tools.

Frigger An English term for an object made by glassworkers on their own time. Most were made from the molten glass remaining in the pot at the end of the day and considered to be a worker's perk. American glassworkers refer to friggers as "end-of-day" objects. Also known as whimsies.

Frit, Fritting Ground-up bits of colored glass varying in consistency from fine to coarse. Melted onto other glass to produce patterns and colors in applied decoration.

Frosting

1. A matte finish produced by exposing an object to fumes of hydrofluoric acid.
2. A network of small surface cracks caused by weathering of the surface.

Fuming The decorative technique of coating a rod of glass with a metal such as silver or gold, then placing the coated rod in a flame while holding the piece to be decorated just behind it. The metal vaporizes with the resulting fumes condensed on the relatively cool surface of the piece.

Furnace An enclosed structure for the production and application of heat that is used for melting the batch, maintaining pots of glass in a molten state, and reheating partly formed objects.

Fusing

1. The process of founding or melting the batch.
2. Heating pieces of glass in a kiln or furnace until they bond.
3. Heating enameled glass until the enamel bonds with the surface of the object.

See Casting, Kiln Forming

G

Gadget A metal rod with a spring-clip that grips the foot of a vessel, avoiding the use of a pontil. *See Clamp*

Gadroon A flute-like decorative motif that often approaches an oval form.

Gaffer (From corruption of “grandfather”): The senior member of a blowing team in charge of the entire production of a glass project

Garage A heating chamber that holds parts of objects to be assembled on a blowpipe while other parts are being made.

Gather A mass of molten glass collected on the end of a punti or rod.

Gathering Obtaining a layer of clear molten glass on top of an existing layer of molten glass.

Gathering Iron A long thin rod used to gather molten glass.

Gemel A pair of bottles blown separately and then fused together, usually with the two necks pointing in different directions.

Gilding The process of decorating objects with gold leaf, gold paint, or gold dust.

Glass An amorphous, homogeneous material with a random, liquid-like molecular structure. Formed by heating the raw materials to a temperature sufficient to completely fuse them into a consistent material that, when cooled, becomes rigid without crystallizing.

Glazier A craftsman who paints and/or assembles glass windows.

Glory Hole The opening in a furnace used to keep glass hot and workable.

Gob *See Bit*

Gold Glass Types of Hellenistic and ancient Roman glass objects decorated with designs cut and/or engraved in gold leaf that has been sandwiched between two fused layers of glass.

Gold Ruby Deep-red glass colored by gold chloride added to the batch.

Gold Sandwich Glass *See Gold Glass*

Gold-band Mosaic Glass Created by the ancient Romans, a variety of ribbon glass using canes composed of bands of gold foil laminated between two layers of clear glass.

Graal A decorative technique created by Orrefors of Sweden in 1916. The design is carved, engraved, or etched on a parison of colored glass which is reheated and cased in a thick layer of transparent glass of another color, then inflated.

Grape Flask An ancient Roman mold-blown flask in the form of a bunch of grapes.

Graphite Crystalline carbon used for glassworking tools because it does not burn or stick to hot glass.

Grenade Type of bottle with a short, narrow neck and a globular body. Was filled with water and thrown into flames to serve as a fire extinguisher.

Grinding The process of removing the surface of an object with a rotating abrasive wheel.

Grisaille (From French gris for “gray”):

1. Decorative painting in monochrome gray on stained glass windows.
2. Brown paint made from iron oxide which defines detail in a stained glass window when fused to the glass.

Grozing Breaking away the edge of a glass object in order to shape it.

Guinand A fire-clay pot used in the manufacture of optical glass.

H

Hand Blown A glass object that was not created by machinery.

Hard Glass A common name for borosilicate glass.

Head Flask Vessels decorated with two faces placed back-to-back. Sometimes known as Janiform Head Flasks after Janus, who was represented as a double-faced head, per the Roman Empire.

Heat-resistant Glass Glass that withstands severe changes of temperature (aka thermal shock). Tempered to be more heat-resistant, borosilicate glasses such as Pyrex are particularly heat resistant.

Hedwig Beaker Dating from circa the 12th century, a rare type of thick-walled glass beaker with relief-cut decoration of lions, griffins, eagles, and other motifs. So called because one surviving example is said to have belonged to Saint Hedwig of Silesia.

Hinterglasmalerei (From German for “painting behind glass”) *See Reverse Painting*

Hochschnitt (From German for “high cut”) *See Relief Cutting*

Hofkellereiglas (From German for “court wine-cellar glass”): A drinking glass used in the German court.

Hookah (From Arabic huqqa): A bell-shaped or globular bottle that is part of the water pipe used for smoking tobacco.

Hot-formed, Hot-worked Generic term for glass that is manipulated while hot.

Humpen (From German for “beaker”): A large cylindrical beaker used mainly for drinking beer. Made in Germany, Bohemia, and Silesia circa 16th to 18th centuries. Usually with enameled decoration. *See Kurfürsten Humpen, Reichsadler Humpen*

Hyalith Two varieties of opaque glass in black and red.

Hydrofluoric Acid A highly corrosive acid that attacks silicates such as glass, leaving a brilliant acid-polished surface.

I

Ice Glass A decorative effect that resembles cracked ice, achieved by repeatedly plunging a parison of hot glass into cold water and withdrawing it quickly. The thermal shock creates fissures in the glass surface that impart a frosted appearance after the parison has been reheated.

Incalmo (From Italian): The technique of constructing an object, usually a vessel, by fusing two or more blown glass elements. The process requires great precision as the edges of the adjoining elements must be of precisely the same diameter.

Inlay An object embedded in the surface of a larger object. *See Marquetry*

Intaglio (From Italian for “engraving”): A method of engraving where a design is cut into an object, lying below the surface plane.

Intarsia (From Italian *intarsio* for “marquetry”): Style developed circa 1920 where a design of colored glass is applied to a parison of a different color, then flashed with a second parison of the same color as the first.

Intercalaire (From French for “inserted”): The application of two layers of decoration where the first is covered with a skin of glass that serves as the surface for the second.

Iridescence A rainbow-like effect that changes based on the angle from which it is viewed, or the angle of incidence of the light source. On ancient glass, it was caused by interference effects of light reflected from several layers of weathering products. On 19th and 20th century glass, iridescence is created by the introduction of metallic substances into the batch, or by spraying the surface with stannous chloride or lead chloride and reheating it in a reducing atmosphere.

J

Jacks A tool with two metal arms joined at one end by a spring, used for a variety of purposes while shaping the parison. Also known as a borsella or pucellas.

Jacobite Glass An 18th century English drinking vessel used for toasting Prince Charles Edward Stuart (Bonnie Prince Charlie). Usually engraved with the English Rose (representing the Crown) and an optimistic motto such as *Redeat* (Latin for “May he return”). See *Williamite Glass*

K

Kantharos (From Greek); Cantharus (From latin): A drinking vessel with a bell-shaped body, a foot, and two handles.

Kick A concavity in the base of a vessel that strengthens the bottom and reduces its capacity.

Kiln In modern glass, a high-temperature electric oven used for annealing, fusing, or casting glass.

Kiln Forming The process of fusing or shaping glass by heating it in a dedicated oven. See *Slumping*

Kiln Wash A powder that is mixed with water and applied to shelves or mandrels in a kiln that prevents glass or glaze from sticking to them. Also known as bat wash.

Knitted Glass Products of techniques that incorporate knitting, lost-wax casting, mold-making, and kiln-casting.

Knop A usually bulbous component of the stem of a drinking glass. Also the finial at the center of a lid.

Knurling A glass band or bead wrapped around a larger project.

Krateriskos (From Greek for “small mixing bowl”): A small wide-mouthed vessel with a body and a foot. Often used to describe certain core-formed Egyptian vessels of the second millennium.

Krautstrunk (From German for “cabbage stalk”): A type of German beaker, circa 15th to 17th century, with a cup-shaped mouth and a cylindrical or barrel-shaped body, decorated with prunts. Forerunner to the römer.

Kunckel Red See *Gold Ruby*

Kurfürsten Humpen (From German for “electors beaker”): A humpen decorated with images of the Holy Roman Emperor and the seven electors of the empire.

Kuttrolf (From German): A flask with the neck divided into two or more tubes.

L

Lacy Mosaic Glass *See Network Mosaic Glass*

Lacy-pattern Glass A 19th century pressed-glass with patterns of extensive stippling that produce a lace-like effect, concealing wrinkles caused by the cold plunger of the pressing machine coming into contact with the hot glass.

Lagynos (From Greek): A wide bodied pitcher with a tall, narrow neck.

Laminated Glass Kiln-fired glass pieces that have not been fired long enough to become completely flat.

Lampworking *See Flameworking*

Lathe In glass, an apparatus that turns tubes at a consistent rate so that large pieces can be easily formed into other shapes.

Lathe Cutting The technique where a blank is mounted on a lathe and turned, while an abrasive tool is held against the surface to polish, cut, or modify the profile.

Latticello A complicated decorative glassblowing technique where the artist uses a latticino to create a reticello-like pattern. Although both classic Italian techniques, latticello is the modern-day version of a classic design.

Latticino (From Italian latte for “milk”): Italian decorative glassblowing technique referring to any glass piece created using colored glass canes.

Lattimo (From Italian latte for “milk”): Opaque white glass, usually opacified by tin oxide or arsenic.

Layered Glass Glass containing strata of different colors. Decorative effects are obtained by revealing contrasting colors via acid etching, carving, cutting, or engraving.

Lead Glass, Lead Crystal Glass containing a high percentage of lead oxide, making it relatively soft and giving it a brilliance that can be maximized by covering the surface with polished facets. *See Flint Glass*

Leaded Glass Arrangement of pieces of flat glass that are held together by lead (or zinc or other metal) comes. Stained glass windows are a classic variety.

Lehr, Leer A specialized, computer-controlled kiln for annealing glass.

Lily-pad Decoration A decorative gather around the base of a vessel, drawn upward in four or more projections with rounded ends.

Lion-mask Stem A hollow stem made by blowing a gather into a mold patterned with two lion’s masks, usually separated by festoons. First used in Venice in the 16th century, subsequently one of the hallmarks of Façon de Venise glass.

Lip Wrap A trail, usually in a contrasting color, wrapping around the edge of a glass’s rim. Also known as an edge wrap.

Lipper Wooden cone-shaped glassworking tool with a handle. Used to form a lip at the mouth of a vessel.

Lithyalin (From Greek lithos for “stone”): A type of opaque glass that has a marbled surface resembling semi-precious stones.

Lost Wax Casting Adapted from metalworking, a technique where the object to be fashioned in glass is modeled in wax, then encased in clay or plaster. The wax is melted and released, and the clay or plaster dries rigid. This becomes the mold into which molten or powdered glass is introduced. After annealing, the mold is removed from the object which is then finished by grinding, fire polishing, or acid etching.

Lotus-bud Beaker A 1st century Roman mold-blown vessel, decorated with rows of oval or almond-shaped bulges.

Luster The shiny metallic effect created by painting a surface with metallic oxide that has been dissolved in acid and mixed with an oily medium.

M

Maigelein (From German): A small hemispherical cup on a base with a kick, usually with vertical or swirled ribs. Made in Germany in the 15th and 16th centuries.

Mandrel

1. A lathe shaft with a hollow end designed to receive spindles
2. A metal rod around which beads and other small objects can be formed. When cooled and removed, the space occupied by the mandrel creates the hole through the bead.

Marbled Glass Decorated glass that resembles marble, having streaks of two or more colors.

Marquetry Technique where pieces of hot glass are applied to molten glass and marvered into the surface to create an inlaid effect. *See Inlay*

Martelé (From French for “hammered”): The multifaceted, wheel-engraved surface favored by Gallé and Daum, that creates a textured background resembling beaten metal. *See Battuto*

Marver (From French marbre for “marble”): A large flat table on which a glass piece is rolled, both to shape it and to remove heat. Marble was originally used in the construction of these specialized tables, while modern marvers are typically made of stainless steel. Lampworkers use small graphite marvers mounted on or near their torches.

Matte Finish A non-shiny finish produced by grinding, sandblasting, or exposing the surface to fumes of hydrofluoric acid. *See Frosting*

Melt Fluid glass produced by melting batch.

Mercury Bottle An ancient Roman mold-blown bottle whose underside bears a relief representation of the god Mercury.

Merese A flat, collar-like knob placed between a bowl and its stem, on the stem, or between the stem and the foot of a goblet or similar form.

Melting Point The temperature below which glass acts as a solid and above which it can be shaped.

Metallic Oxide The oxide of a metal that can be used to color glass and enamel, or to produce lustered or iridized surfaces. *See Iridescence, Luster*

Mezzaforma (From Italian for “half-mold”): The process of creating vertical ribs on the lower part of a blown glass object by gathering additional glass on a parison and inflating it further in a dip mold. Also known as *mezza stampatura* or *meza stampaura*.

Milled Threading Decoration consisting of a trail that has been closely notched.

Millefiori (From Italian for “a thousand flowers”): A flower-like style of murrine featuring internal patterns made by layering a number of colors and shaping each while molten with an optic mold. *See Mosaic Glass*

Moil The unwanted top of a blown object, created during its removal from the blowpipe. After annealing, the top of the object is removed, usually by cracking off.

Molar Flask A small flask with four short feet that resembles the root of a tooth. Characteristic of 9th to 14th century Islamic perfume bottles.

Mold A form usually made of clay, metal, or wood, that is used for shaping glass.

Mold Blowing The inflation of a parison of hot glass in a mold, forcing it against the inner surfaces of the mold to assume the shape and any decoration that it carries.

Mold Blown Glass object produced by vertically blowing into an open-ended cylindrical mold via a blowpipe. Results in effects or grooves in molten glass.

Mold Mark *See Seam Mark*

Mold Pressing The forcing of hot glass into an open or multi-part mold by means of a plunger.

Mosaic A surface decorated by small, adjoining pieces of colored material such glass.

Mosaic Glass Glass objects made of pre-formed elements placed in a mold and heated until fused.

Moss Agate An English art glass developed in the late 1880s. Made by casing a parison of soda-lime glass with colorless lead glass, covering it with several colors of powdered glass, and casing it again with lead glass. The object was then shaped, reheated, and had cold water injected into it, causing the soda-lime glass to develop a network of fine cracks.

Muff A glass cylinder meant to be cut into sheets. *See Cylinder glass*

Muffle A fire-clay box in which glass objects are enclosed when placed in a muffle kiln, to protect them from flames and smoke while they are subjected to low-temperature firings.

Muffle Kiln A low-temperature oven for refiring glass when fusing enamel, fixing gilding, or producing luster. *See Kiln*

Murrhine (From Latin *murra* for the name of a mineral from which costly vessels were made): Often refers to ancient Roman mosaic glass. But is probable that *vasa murrina* were actually made from a semiprecious stones such as fluorite.

Murrina (From Italian): Refers to multicolored elements embedded in an object.

Murrine (From Italian): Patterns or images made in a glass cane that are revealed when cut or chopped in cross-sections.

N

Natron Sodium sesquicarbonate, commonly used by Roman glassmakers as the alkali component of batch.

Necking Reducing an end of a blown glass object to form a bottle neck.

Nef (From old French *nef* for “ship”): A ship-shaped table ornament with its hull formed by blowing, and its rigging consisting of trails. Sometimes has a spout in the hull.

Network Mosaic Glass Hellenistic and Roman glass composed of spirally wound canes, fused to create an overall pattern with a lacy appearance. Usually colorless and white or yellow. *See Lacy Mosaic Glass*

Nipt-diamond-waies Term used by an English glassmaker in 1677 for the technique of manipulating adjacent vertical ribs with pincers to form a diamond pattern.

Nuppenbecher (From German for “drop beaker”): A beaker decorated with large, drop-like prunts which are drawn out into pointed projections.

O

Obsidian The volcanic mineral that was the first form of natural glass used by humans. Usually black, very dark red, or green; its splinters are often transparent or translucent.

Oenochoe (From Greek for “wine pourer”): A pitcher with a trefoil mouth used in ancient Greece to transfer wine from mixing bowl to cup. Miniature versions were used as perfume bottles.

Opal Glass Translucent and white glass with a grayish or bluish tinge that resembles an opal.

Opalescent Glass A late 19th century art glass made by covering a gather of colored glass with a layer of colorless glass containing bone ash and arsenic or the mineral cryolite. The parison, inflated in a mold to produce raised decoration, is then reheated and the raised areas become opalescent.

Openwork Work that is perforated.

Optical Glass Glass of extreme purity with well-defined optical properties, created for making lenses and prisms.

Optic Mold An open, cone-shaped mold with ridges on the inside that transfer a pattern to the surface of a gather or bubble that is inserted when hot. *See Dip Mold*

Ormolu (From French for “ground gold”): An alloy with a copper base that is used for decoration. Some glass objects have ormolu mounts.

Overblow The portion of a parison that remains outside the mold that is usually removed by cracking off.

Overlay A layer of glass covering a layer of a different color, often as the result of casing or flashing.

Overshot Glass Rolled molten glass that is covered with splinters as a final completed surface.

Oxidizing An atmosphere rich in oxygen, containing very little uncombusted gas. This atmosphere tends to affect colored glass containing metallic oxides in a different manner than a reducing atmosphere.

P

Paddle A tool used for forming hot glass, usually made of graphite.

Pane A piece of flat sheet glass used for window glazing. *See Crown Glass, Cylinder Glass*

Paperweight A small heavy object designed to hold down loose papers. The first glass paperweights were made in the early 1840s in Venice and France.

Parcioffi (From Italian): Jacks with blades made of wood.

Parison (From French *paraison*): The first small bubble on the end of a blowpipe.

Passglas (From German for “pass glass”): A tall cylindrical drinking vessel with trailed or enameled horizontal marks. The drinker is to gulp only enough to reach the next horizontal mark and then pass the glass to the next person.

Paste, Glass Paste (From French *pâte de verre* and Italian *pasta vitrea*): Terms used incorrectly since at least the 17th century describing the composition of small objects such as medallions and imitation precious stones.

Pâte de Verre (From French for “glass paste”): A paste of ground or crushed glass, and the technique of casting this material into a mold. Also applied to a general range of cast-glass objects.

Patella Cup (From Latin *patella* for “small dish; kneecap”): A 1st century Roman drinking cup with a double-convex profile and a foot-ring.

Pattern-molded Glass Glassware blown into a mold with a raised pattern, with the object showing the pattern with a concavity on the inside, underlying the convexity on the outside. Not used to impart the final form to an object.

Peachblow A type of American art glass of the late 19th century resembling the peach bloom glaze on 17th to 18th century Chinese porcelain.

Pegging The technique of pricking molten glass with a tool to leave small, air-filled hollows. When covered with a second gather, the hollows become air traps. Used to decorate knobs and paperweights.

Pezzato (From Italian for “dappled”): A decorated Murano glass where the object is covered with a patchwork of rectangles of different colors.

Pick-up Decoration A technique where a hot parison is rolled in chips of glass that are picked up, marvered, and inflated.

Piece Mold A mold made of two or more parts.

Pillar-molded Glass A term used by 19th century English glassmakers for vessels with mold-blown vertical ribs but no corresponding indentations in the interior. The term is frequently and incorrectly applied to ancient Roman ribbed bowls which were made in a different manner.

Pincers A tool used for decorating glass objects by pinching them while still molten.

Plastic Easily modeled or shaped. Glass can be described as plastic while in its molten state.

Plate Glass Flat glass of a high quality, formed by rolling molten glass on a metal plate, then grinding and polishing it until the surfaces are completely smooth.

Plating A 19th century American synonym for casing.

Point A length of tubing prepared for flameworking, consisting of a full-diameter tube with a tapered handle on each end. The handles are also called points and can be opened to let the flameworker blow into the tube to form a bubble.

Pokal (From German): A covered goblet with a flared bowl used for drinking toasts.

Polishing Smoothing the surface of a cold object by holding it against a rotating wheel outfitted with a fine abrasive such as pumice or cerium oxide. Glass can also be polished with hand-held tools.

Pomona A colorless art glass patented in 1885 that was mold-blown repeatedly, partly etched, stained amber or rose, and decorated with blue and amber garlands of flowers and fruits.

Pontil, Pontil Mark A metal rod used by glassblowers to make small gathers or to provide a handle for an object while it is being made. (Flameworkers use glass rods.) Also called a punty.

Post Glass used to attach a second pontil to glass that is about to be pulled into a cane.

Post Technique Rather than being applied to a vessel with a wad, a pontil can be attached to a flat plate of glass called a “post,” which is then affixed to the base or footring of the vessel.

Pot A fire-clay container in which batch is fused and kept molten.

Potash Potassium carbonate, used as an alternative to soda as the source of alkali in the manufacture of glass.

Potash-lime Glass, Potassium-lime Glass: A form of glass containing three major compounds in varying proportions: silica, potash, and lime. Potash glass is slightly denser than soda-lime glass and passes from molten to rigid more quickly, making it more difficult to manipulate into elaborate forms. However, it is harder, more brilliant, and better for decorative techniques such as facet cutting and copper-wheel engraving.

Powder Finely ground glass put into the pot for melting into the molten glass used by the hot glass worker.

Preheating The heating of a glass piece from room temperature to a state sufficient to prevent serious shock when plunged into a flame. Either done in a kiln or in the backwash of a flame.

Pre-mix Burner A burner that mixes the gases inside its body prior to ignition.

Prunt A small blob of glass fused to a piece of glass, often impressed with a pattern or stamp.

Pressed Glass Glassware formed by placing molten glass in a metal mold and pressing it with a metal plunger (or “follower”) to form the inside shape. The resulting mold-pressed piece has an interior form independent of its exterior; in contrast to mold-blown glass whose interior corresponds to its outer form.

Prince Rupert’s Drop A hollow glass object, about two inches long, with a bulbous end and a narrow, curving tail. Made by dropping a blob of hot glass into cold water and leaving it there until it has cooled. The rounded end will resist a blow but because of internal stress due to the absence of annealing, the tail will shatter into fragments if it is broken or scratched. These objects have aroused great curiosity since they were introduced in England by Prince Rupert in 1662.

Printy, Printie A circular or oval wheel-cut depression.

Prismatic Cutting A pattern usually found on the necks of pitchers and decanters. Made up of long, mitered grooves cut horizontally in straight lines so that the top edges of each groove touch the edges of the adjoining grooves.

Prunt A blob of glass applied to a glass object for decoration, but also for a firm grip in the absence of a handle.

Pucellas (From Italian) *See Jacks*

Pulegoso (From Italian dialect word *pulega* for “bubble”): Developed in Murano in the 1920s, glass containing numerous bubbles of all sizes making it semiopaque and giving the surface an irregular texture. Produced by adding bicarbonate of soda, gasoline, or other substances to the melt.

Pulling *See Drawing*

Punty A solid metal rod, around 5 feet long, used to hold an object being blown or hot-worked after it is removed from the blowpipe. Used for transferring the glasswork that is currently connected to the blowpipe or changing the end of the glass that is being worked on. *See Pontil*

Puzzle Glass *See Trick Glass*

Pyrex A type of borosilicate glass perfected in 1915 by Corning Glass Works. Pyrex rods can be used in frameworking.

Q

Quarry A small square-shaped or diamond-shaped pane of glass.

Quincunx (From Latin for “five-twelfths”): The arrangement of five objects in a square or rectangle, with one in each corner and one in the middle. Prunts and other motifs are sometimes arranged in a quincunx pattern.

R

Rag Layers of wet newspaper folded into a cool pad for a glassworker to shape hot molten glass.

Raised Diamond Cutting An all-over pattern of raised four-sided diamonds in pyramidal form, each with a sharp apex cut with a mitered wheel. Produced by English and Irish glasscutters circa 1780 to 1825.

Raspberry Prunt A flat, circular prunt with an impressed design that resembles a raspberry.

Reactive Glass A type of glass made by Louis Comfort Tiffany that changes color when it is reheated.

Reamer A tool usually made of graphite that a frameworker uses to create shaped tubing.

Reducing Atmosphere An atmosphere in a kiln or furnace that is deficient in oxygen. Sometimes created deliberately to reduce oxides to their metallic state as in the case of luster pigments.

Refractory Usually clay, a substance with a high silica content capable of withstanding high temperatures. Furnaces and pots are made from refractory materials.

Regulator A device for controlling the pressure of gas within a contained system.

Reichsadler Humpen (From German for “imperial eagle beaker”): A humpen decorated with a heraldic two-headed eagle whose wings bear the insignia of the Holy Roman Empire.

Relief Cutting The process of removing the background of cut-glass to create decoration in high relief.

Resist A substance preventing a particular action. As in acid etching or sandblasting, where parts of the surface are protected with a resist.

Reticello Italian decorative glassblowing technique involving the merging of two cane bubbles (one inside the other), where the straight canes are twisted in opposite directions. Once merged, the opposing canes cross each other to create a net-like pattern. When done the traditional way, small air bubbles are trapped in a grid pattern between the crossing canes. *See **Vetro a Reticello***

Reverse Foil Engraving A decorative technique where gold or silver leaf is applied to the back side of glass, is engraved, and then protected by varnish, metal foil, or another piece of glass. *See **Verre Eglomisé***

Reverse Painting Decorative painting technique used on the back side of glass for a design that is to be viewed from the front (through the glass). The painter must apply the pigments in reverse order, beginning with the highlights and ending with the background.

Ribbon Glass

1. A 1st century Roman mosaic glass that consists of ribbon-like canes arranged in parallel rows or geometric patterns.
2. A vetro a reticello made in Venice and other places where Façon de Venise Glass was produced.

Rigaree A raised band or pattern of bands made by crimping applied trails.

Ringer A glassworker who applies the ring to a larger piece of glass.

Rock Crystal Quartz (chemically pure silicon dioxide). Usually colorless, glassmakers sought to imitate it from earliest times.

Rock-crystal Engraving Introduced in England in the 1870s, a style of copper-wheel engraving that, when combined with polishing, gives glass objects the appearance of rock crystal.

Rod A monochrome length of solid glass of a consistent diameter, used in forming and fusing glass

Rod Forming The winding of molten glass around the tip of a narrow metal tool or wire that has been coated with clay or kiln wash. Used for making objects such as beads and pendants.

Rolling Pin A cylindrical object of wood or glass for rolling out dough to a required thickness. Glass rolling pins are friggers with a knob at each end so they can be suspended by a cord.

Roman foot A flange-like base formed by folding, created by ancient Romans glassworkers.

Römer, Roemer (From German; From Dutch): A drinking vessel for wine or beer with an ovoid mouth, a conical foot, and a cylindrical body usually decorated with prunts.

Rondelle Flat blown glass that was spun hot.

Rotary Polishing The process of polishing an object with tools and an abrasive while turning it on a lathe.

Rummer A 19th century English goblet with a short stem and a square or domed foot.

Rüsselbecher (From German for “trunk beaker”) *See **Claw Beaker***

S

Sagging *See Slumping*

Sand The most common form of silica used in making glass, collected from a seashore or from deposits containing fewer impurities.

Sandblasting A method of imparting a matte finish by bombarding glass with fine grains of sand that are propelled by compressed air. A cloudy dull finish results with every layer removed. Can also use the process to remove enough material to actually penetrate the glass for different effects.

Sand Casting, Sand Molding A technique for forming where molten glass is poured or ladled into a mold of compacted sand. A granular surface results where the glass comes into contact with the sand.

Sand-core Technique A misnomer for core forming.

Satin Glass Glass having a matte finish or frosting.

Sawing The cutting of glass with a rotating wheel having a blade that is usually diamond-tipped.

Scale An accidental inclusion in glass consisting of corrosion products that detached from the metal implements used to stir the batch or form the object.

Scavo (From Italian for “excavation”): The application of chemicals to the surface of an object that, when heated to about 1,470 degrees Fahrenheit, will fuse to create an effect similar to weathering, thereby imitating glass from an archeological excavation.

Scheuer (From German): A drinking glass with a short cylindrical neck, a hemispherical body, and a single handle projecting outward and upward.

Schmelzglas (From German for “enamel glass”): Types of decorative glassware, including calcedonio and opaque white glass, with a red overlay applied by flashing. It does not refer to glass decorated with enamel.

Schwarzlot (From German for “black lead”): A sepia enamel originally used for painting stained glass. Later applied to glass vessels by itself or in combination with other enamels or gold.

Sculpting Creating hand-made, free form, solid glass works while in molten glass form.

Seal An emblem impressed in wax or other plastic substance as evidence of ownership or authenticity. Since the 17th century, many bottles have borne stamped glass seals to identify the producer of the contents, the tavern in which they were used, or the individual for whom the contents were bottled.

Seam Mark A slight, narrow ridge on a glass object which indicates it was made in a mold.

Seeds Minute bubbles of gas, usually in groups.

Shard Glass fragment. Can be rolled or melted into a working piece for a variation in color or texture.

Shears Glassmakers’ scissors used to trim excess hot glass from an object in the course of production. Many modern shears are embedded with chips of industrial diamonds.

Shearings Slivers of waste glass formed by trimming glasswork during manufacture.

Sick Glass *See Crizzling*

Sidonian Glass A generic name for numerous 1st century Roman mold-blown vessels. Unknown how many of these objects were actually made in Sidon, a city in Lebanon.

Silica Silicon dioxide, a mineral that is the main ingredient in glass. The most common form of silica used in glassmaking has always been sand.

Silveria A type of art glass containing incased silver foil.

Silver Stain A deep yellow stain made by painting the surface of glass with silver nitrate or a similar compound and firing it at a relatively low temperature.

Silvered Glass A 19th century glassware with an all-over silver appearance, made by applying a solution of silver nitrate between the walls of a double-walled vessel.

Sintering Heating a mixture of materials so they become a coherent mass, but not melting them. *See Frit*

Size Viscous materials such as glue and resin used to affix color or gold leaf.

Slag Glass *See Marbled Glass*

Slumping The reheating of a blank until it becomes soft and flows over or into a former mold, eventually assuming the shape of the mold. Also known as sagging.

Smalt Colored glass, often deep blue from cobalt oxide, finely ground to use as a colorant for glass and enamel.

Snake-thread Decoration Embellishment consisting of trails applied in sinuous patterns, created by the Romans circa the second to fourth centuries.

Snap *See Gadget*

Soak To hold a piece of glass in the annealing oven at a particular temperature to assure proper annealing.

Sodium Flare The bright flame resulting from the reaction of an oxygen-rich flame and the surface of glass containing sodium.

Soda-lime Glass Generally the most common form of glass, containing three major compounds in varying proportions: usually silica, soda, and lime. Soda-lime glass is relatively light and remains workable over a wide range of temperatures, lending itself to elaborate manipulative techniques.

Soffietta (From Italian): A tool consisting of a curved metal tube attached to a conical nozzle, used to further inflate a vessel after it has been removed from the blowpipe and is attached to the pontil. The glassblower reheats the vessel, inserts the nozzle into their mouth so that the aperture is blocked, and then inflates the vessel by blowing through the tube.

Soft Glass A term for glass with a relatively high coefficient of expansion (e.g., soda-lime glass). Conversely, Hard Glass refers to glass with a relatively low coefficient of expansion (e.g., borosilicate glass).

Soliflore A French term for a vase for a single flower, with a bulbous body and a long drawn-out neck.

Spatter Glass Glass with flecks of contrasting color rolled into it.

Spechter (From German): A 16th century German drinking glass.

Spill Holder A tall, narrow vessel holding thin strips of wood (known as spills) or folded and twisted pieces of paper. Used for lighting candles, pipes, etc. *See Taperstick*

Sport Cup A 1st century Roman mold-blown drinking vessel decorated with fighting gladiators or a chariot race.

Sprinkler A vessel with a narrow neck and sometimes a diaphragm at the bottom from which the contents emerge drop-by-drop.

Sputtering A metal coating process for glass surfaces.

Stained Glass Decorative windows made of pieces of colored glass fitted into comes and set in iron frames. Also, glass colored throughout by metallic oxide, by flashing, and glass decorated with enamel.

Staining In glass, coloring the surface of glass by the application of silver sulfide or silver chloride which is then fired at a relatively low temperature. The silver imparts a yellow, brownish yellow, or ruby-colored stain which can be painted, engraved, or etched.

Stangenglas (From German for “pole glass”): A tall, narrow, cylindrical drinking vessel usually with a pedestal foot.

Stem The narrow part of a goblet or tazza that separates the bowl from the foot.

Stemware The collective name for drinking vessels and serving dishes with a stem supporting the bowl.

Stick Lighting, Stickwork The use of a point to scratch details in painted or enameled decoration.

Stippling

1. In glass, the technique of creating a decoration of many hundreds or thousands of marks by tapping the surface of a glass object with a pointed tool, often with a diamond or tungsten-carbide tip. 2. Part of the decoration of the mold in lacy-pattern glass.

Stone Unmelted particles of batch, fragments of refractory material from the pot, or devitrification crystals that create an inclusion in glass.

Strain Cracks Fissures in the body of a vessel caused by the internal strain resulting from inadequate annealing and/or accidental thermal shock.

Stretch Glass A cracked iridescence on a glass surface.

Strike The changing of color in glass that has been reheated. A dramatic example is the borosilicate colors in the ruby family that strike from clear to deep red upon reheating.

Striking The reheating of glass after it has cooled in order to develop color, or an opacifying agent that appears only within a limited range of temperatures.

Stringer A molten glob of color applied to the surface of hot glass resulting in a cane-like resemblance.

Studio Glass Unique or limited-edition glass objects designed and made in a studio rather than a factory.

Studio Glass Movement Begun in the United States in the 1960s, a movement characterized by the proliferation of glass artists working with hot glass in their own studios. Made possible by the development in 1962 of the small furnace and easy-to-melt glass.

Sulphide A small ornamental object of white porcelain-like material, made to be encased in glass.

Swirled Ribbing A pattern of spiraling vertical ribs made by inflating a parison in a dip mold with vertical ribs, withdrawing it, twisting it, then continuing to inflate it. Also described as wrythen.

Swivel The small metal attachment for plastic tubing used in blowhoses. Allows a flameworker to attach a blowhose to the end of a tube or point and blow into the tube while rotating it in the flame.

T

Tank The large receptacle in a furnace for melting batch. First used in antiquity, it replaced pots in larger glass factories in the 19th century.

Taperstick A tall, thin vessel used to hold tapers. *See Spill Holder*

Tazza (From Italian for “cup”): An ornamental dish or cup on a stemmed foot. Generally made for drinking, displaying fruit or sweetmeats, or as purely decorative objects.

Teardrop A drop-shaped air bubble enclosed (usually) in the stem of a glass.

Tessera (From Latin for “small square tablet” or “block”): Small piece of glass or other material used in the creation of a mosaic.

Thermal Shock The strain created by abruptly heating or cooling a piece of glass.

Thermocouple A bi-metal probe that measures a kiln’s temperature.

Threading Winding a thin trail of glass around an object, creating the appearance of parallel lines.

Tiefschnitt (From German for “deep cut”) *See Intaglio*

Tip The end of a burner that distributes gases prior to ignition.

Toddy Plate A small pressed glass plate made circa 1830 to 1870 as a saucer beneath a toddy glass.

Tongs Glassmaking tool for picking-up, transferring, and applying water to a punty to remove a glass piece from the blowpipe.

Tool Any instrument used by glassworkers to develop and shape an object. Includes the blowpipe, pontil, gathering iron, jack, shears, clapper, pallet, block, pincer, battledore, lipper, and crimper.

Tooling The act of using a tool.

Trail A roughly circular strand of glass drawn out from a gather.

Trailing The application of trails of glass as decoration on the body, handle, or foot of a vessel. Done by laying or winding softened threads on a glass object during manufacture. *See Combed Decoration*

Trick Glass Usually a wine glass, often of extraordinary shape, designed to be as difficult as possible to drink from without spilling the contents.

Tubing Manufactured glass of a hollow form, rather than of solid rods. Used by flameworkers to make bubbles instead of gathering glass on a blowpipe.

Twist 18th century style of decoration in the stems of drinking glasses. Made by twisting a glass rod embedded with threads of white glass, threads of colored glass, columns of air (air twists), or a combination of all three.

Twisty Cane A cane formed of different colored glass twisted together. Also known as zanfirico cane.

U

Undercutting The technique of decorating glass in high-relief by cutting or carving away glass between the body of the object and its decoration (e.g., on a cage cup).

Uranium Glass Glass colored with uranium oxide, made popular by Riedel circa 1834. See *Annagelb* (which is yellow) and *Annagrün* (which is green)

V

Vas Diatretum, Vasa Diatreta (From Latin) See *Cage Cup*

Vermiculée (From French for “vermiculate”): A convoluted ground pattern resembling worm tracks.

Vermiculite An insulating material that prevents glass from cooling too quickly.

Verre Eglomisé (From French): A decorative technique in which gold or silver leaf is applied to the back of a piece of glass, engraved, and protected by varnish, metal foil, or another piece of glass. The term Reverse Foil Engraving is preferred.

Vetro a Fili (From Italian for “glass with threads”): A type of blown glass made with canes that form a parallel line pattern.

Vetro a Reticello (From Italian for “glass with a small network”): A type of blown glass made with canes organized in a crisscross pattern to form a fine net which may contain tiny air traps.

Vetro a Retorti (From Italian for “glass with twists”): A type of blown glass made with canes that have been twisted to form a spiral pattern.

Vetro di Trina (From Italian for “lace glass”): A term loosely applied to various types of vetro a reticello.

Victory Beaker A 1st century Roman mold-blown drinking vessel inscribed in Greek with “Take the Victory.”

Virtual Production Replications A repair, recovery, or restoration for historic purposes. The re-making of a non-art production glass piece with an as-close-as-possible custom-made glass piece.

Vitreography

1. A style of three-dimensional scenes displayed in a shadow box frame.
2. A printing technique using a 3/8 inch-thick float glass matrix instead of the traditional matrices of metal, wood, or stone.

Vitrigraph Kiln A wall-mounted kiln used for the pulling of molten glass strings.

Vitrigraph Pulling The pulling of molten glass strings from a wall-mounted kiln, usually into shapes such as spirals.

W

Waldglas (From German for “forest glass”) *See Forest Glass*

Warzenbecher (From German for “wart beaker”): A heavy glass tumbler made of forest glass and decorated with prunts, produced in Germany in the 16th and 17th centuries.

Waster A defective object discarded during manufacture, routinely recycled as cullet.

Weathering Changes to a glass surface caused by a chemical reaction with the environment. Usually involves the leaching of alkali from the glass by water, leaving behind siliceous products that are laminar.

Weeping Glass *See Crizzling*

Wetting Off The separation of a glass work from the blowpipe using cold water to fracture-control the break and separation.

Wheel Engraving The process of decorating the surface of glass via the grinding action of a wheel. Uses disks of various sizes and materials, and an abrasive in a grease or slurry applied to the wheel. *See Cutting, Copper-wheel Engraving*

Whimsy *See Frigger*

Williamite Glass A late 17th and 18th century English drinking vessel engraved with a toast, a symbol, a motto supporting William of Orange (King William III), or with his portrait. *See Jacobite Glass*

Winged Goblet Style of goblet with its stem in the form of vertical, wing-like flanges that contain trails arranged in a complex design that may include dragons, sea horses, and other creatures.

Witch Ball A glass globe meant to be hung to ward off the Evil Eye.

Wrap A heavy outside bead on a glass vessel, generally used for creative style or contrasting color.

Wrythen *See Swirled Ribbing*

Y

Yard-of-ale A type of English glass, often one yard long, with a trumpet-shaped mouth, a long narrow neck, and a small globular body.

Yoke A support for the weight of a blowpipe while a glass work is in the glory hole being flashed.

Z

Zanfirico (From Italian): A traditional type of polychrome cane assembled from a bundle of rods of different colors and heated until soft, then attached to two pontils and elongated by drawing out. At the same time, the bundle is twisted to produce a spiral pattern. *See Vetro a Retorti*